

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-7 (canceled)

Claim 8 (original): A method to fabricate a capacitor plate, comprising:

selecting a set of physical specifications of said capacitor plate;

estimating an initial required capacitance for a plurality of contacts on said capacitor plate;

modeling said capacitor plate after assembly on a substrate;

estimating a more precise required capacitance for said plurality of contacts on said capacitor plate after modeling said capacitor plate after assembly on said substrate; and

fabricating said capacitor plate according to said set of physical specifications.

Claim 9 (currently amended): The method of claim 8, wherein said capacitor plate includes one or more layers including a material comprising at least one of consisting of: FR4, a resin, an elastomeric material, or a ceramic.

Claim 10 (original): The method of claim 8, wherein said capacitor plate includes soldering pads for soldering said capacitor plate to said substrate.

Claim 11 (currently amended): The method of claim 8, wherein said capacitor plate comprises:

a plurality of conductive power planes; and
a plurality of conductive ground planes, wherein said plurality of conductive power planes and said plurality of conductive ground planes are separated by one or more dielectric layers including a dielectric layer chosen from the materials comprising at least one of ~~consisting of~~: FR4, a resin, an elastomeric material, or a ceramic.

Claim 12 (original): The method of claim 8, wherein said capacitor plate has one or more layers of dielectric materials with a relative permittivity greater than 4.

Claim 13 (original): An assembled substrate, comprising
a substrate having a first side and a second side, and a first electrical contact area on said first side and a second electrical contact area on said second side;
an electrical component having a plurality of leads electrically connected to said first electrical contact area of said substrate; and
a capacitor plate electrically connected to said second electrical contact area on said second side of said substrate substantially opposite said first electrical contact area of said substrate.

Claim 14 (original): The assembled substrate of claim 13, wherein said assembled substrate further comprises:

a first interposer between said component and said first electrical contact area on said first side of said substrate; and

a second interposer between said capacitor plate and said second electrical contact area on said second side of said substrate.

Claim 15 (currently amended): The assembled substrate of claim 14, wherein said first interposer and said second interposer are chosen from a group of ~~interposers~~ consisting of: a socket, or a conductive elastomeric material.

Claim 16 (currently amended): The assembled substrate of claim 13, wherein said substrate is chosen from a group of ~~substrates~~ consisting of: a PCB, an MCM, and a flexible substrate.

Claim 17 (currently amended): The assembled substrate of claim 13, wherein said component is chosen from a group of ~~components~~ consisting of: an LGA component, or a BGA component.

Claim 18 (original): The assembled substrate of claim 13, wherein said capacitor plate has a plurality of layers of dielectric material separating a plurality of layers of conductive material.

Claim 19 (currently amended): The assembled substrate of claim 13, wherein said capacitor plate comprises:

a plurality of conductive power planes; and
a plurality of conductive ground planes, wherein said plurality of conductive power planes and said plurality of conductive ground planes are separated by one or more dielectric layers including a dielectric layer chosen from the materials comprising at least one of ~~consisting of~~: FR4, a resin, an elastomeric material, or a ceramic.

Claim 20 (original): The assembled substrate of claim 13, wherein said capacitor plate is attached by solder to said second electrical contact area on said second side of said substrate.

Claim 21 (new): A method for assembling a substrate assembly, the method comprising:

connecting a component to a first electrical contact area on a first side of a substrate;

performing In-Circuit Testing of the substrate with the connected component, wherein the In-Circuit Testing is performed on a second electrical contact area on a second side of the substrate; and

connecting a capacitor plate to the second electrical contact area on the second side, opposite the first electrical contact area on the first side of the substrate, wherein the capacitor plate is connected to the second electrical contact area after completing the In-Circuit Testing, wherein the capacitor plate is fabricated by a

method comprising: modeling said capacitor plate after assembly on a substrate.

Claim 22 (new): The method of claim 21, further comprising:

clamping the capacitor plate and the component to the substrate by use of a mechanical press.

Claim 23 (new): The method of claim 22, wherein the mechanical press is coupled to the substrate by use of a plurality of bolts.

Claim 24 (new): The method of claim 21, wherein the capacitor plate is fabricated by a method further comprising:

estimating a capacitance for the capacitor plate;
creating an electrical model of the capacitor plate;
determining if the electrical model predicts that the capacitor plate provides the required decoupling capacitance for contact pads under the component;

estimating a new capacitance for the capacitor plate, if the capacitor plate does not provide the required decoupling capacitance;

building a prototype of the capacitor plate;
assembling the capacitor plate on the substrate; and
testing if the capacitor plate provides the necessary decoupling capacitance.

Claim 25 (new): The method of claim 21, wherein the capacitor plate is fabricated by a method further comprising:

 prior to modeling the capacitor plate as assembled on the substrate, estimating an initial required capacitance for a plurality of contacts on the capacitor plate;

 estimating a more precise required capacitance for the plurality of contacts on the capacitor plate after modeling the capacitor plate; and

 fabricating the capacitor plate according to the more precise required capacitance for the plurality of contacts.

Claim 26 (new): The method of claim 21, further comprising:

 attaching a first interposer to the first electrical contact area on the first side of the substrate;

 attaching the component to the first interposer on the first electrical contact area;

 attaching a second interposer to the second electrical contact area on the second side of the substrate; and

 attaching the capacitor plate to the second interposer.

Claim 27 (previously presented): The method of claim 21, wherein the capacitor plate comprises:

 a plurality of conductive planes; and

 at least one dielectric layers to separate the plurality of conductive planes.

Claim 28 (new): The method of claim 21, wherein the capacitor plate is attached by a solder to the second electrical contact area on the second side of the substrate.

Claim 29 (new): A substrate assembly produced in accordance with the method of claim 21.